REMARKS

Claims 1-7, 9-19 and 21-24 remain pending in the application. Favorable reconsideration of the application is respectfully requested.

Applicants wish to thank the Examiner for the withdrawal of the finality of the previous Office Action and the continued careful examination of the application.

I. ALLOWABLE SUBJECT MATTER

Applicants acknowledge with appreciation the noted allowability of claims 10-12 and 22-24. These claims will be in condition for allowance upon being amended to independent form.

II. REJECTION OF CLAIMS 1, 2, 4-7, 9, 13, 14, 16-19 and 21 UNDER 35 USC §103(a)

Claims 1, 2, 4-7, 9, 13, 14, 16-19 and 21 stand rejected under 35 USC §103(a) based on *Tasaka et al.* in view of *Van Den Enden et al.* Applicants respectfully request withdrawal of the rejection for at least the following reasons.

Applicants previously pointed out how *Tasaka et al.* does not teach or suggest a recording/reproduction apparatus in which the reproduction signal was a signal obtained reproducing an arbitrary random signal sequence. Applicants noted that *Tasaka et al.* teaches using a predetermined test recording pattern.

The Examiner now acknowledges that *Tasaka et al.* does not disclose that the reproduction signal is a signal obtained from reproducing a random signal. (See, O.A., p. 3). However, the Examiner relies on *Van Den Enden et al.* as teaching a recording/reproducing method including the step of recording/reproducing an arbitrary random signal sequence. The Examiner argues that it would have been obvious to

modify *Tasaka et al.* to utilize an arbitrary random sequence based on the teachings of *Van Den Enden et al.* As motivation, the Examiner refers to the desire to avoid "material defects in the recording layer of a location due to repeated writing of the same patterns". (See, O.A., p. 3, citing Col. 2, lns. 59-65 of *Van Den Enden et al.*)

Applicants respectfully submit that it would not have been obvious to one having ordinary skill in the art to combine the teachings of *Tasaka et al.* and *Van Den Enden et al.* as proposed by the Examiner. The requisite motivation is absent and the rejection should be withdrawn. The desire to avoid material defects in the recording layer due to repeated writing of the same patterns is not of relevant concern in the present invention. Thus, the Examiner's reliance is misplaced.

More particularly, the present invention relates to utilizing an arbitrary random signal sequence in order to correspondingly measure a time interval and an edge shift amount in a recording/reproduction method and apparatus. Specifically, the invention involves changing a parameter of a recording pulse based on the thus obtained edge shift amount. As is discussed in the present application at page 12, line 17 to page 13, line 4; and page 43, line 19 to page 44, line 9, an arbitrary random signal sequence is beneficial for determining parameter changes such that *the number of mark categories can be changed if required* and the signal quality of recording signals can be improved if required. (See, e.g., paragraph bridging pages 43-44). The present application states:

> *A fourth viewpoint is the type of recording data to be recorded so as to detect an edge portion of a mark. It is assumed that a specific pattern in accordance with the mark categorization is recorded as a signal sequence of recording data. If the number of categories is increased, the number of types of specific patterns to be recorded is increased. In this case, a longer time is required for measurement and a plurality of patterns for edge detection is prepared in advance. Thus, the scale of the apparatus is increased.*
>
> *On the other hand, according to a method in which an arbitrary random recording data signal is used and recorded, and the leading edge and the trailing edge of each mark contained in the recorded data are detected, the edge positions of a mark can be detected using at least one random sequence. Conventionally, if the number of categories is increased, the number of specific patterns for determining the positions of a mark is also increased. According to the present invention, an arbitrary random sequence is recorded and the edge shift amounts of all marks of 2T to 8T can be measured. Therefore, the number of mark categories can be changed if required and the signal quality of recording signals can be improved if required.*

(Spec., p. 43, ln. 19 to p. 44, ln. 9).

Thus, the random signal sequence in the present invention is useful in developing parameter changes for increasing numbers of corresponding categories (e.g., 2T, 3T, 4T, etc.) without requiring an increase in the number of specific patterns necessary as in the conventional art. The scale of the apparatus need not be substantially increased as in the conventional art. Nor is a significantly longer time required as in the conventional art.

The present invention does not involve repeatedly recording the same sequence in multiple overwrite cycles as is the case in *Van Den Enden et al.*

More particularly, *Van Den Enden et al.* is concerned with linking position inaccuracies that occur on a partly recorded writable record carrier. As the Examiner notes, the data to be written in the linking area before the new data starts is chosen randomly, which is important for the interaction between old and new data for phase change recording. In a linking area, writing exactly the same data over each other each time limits the amount of overwrite cycles. (See, e.g., *Van Den Enden et al.,* Col. 6, lns. 45-50 ,and Col. 2, lns. 59-65).

The present invention is not concerned with repeatedly recording data in a linking area. The present invention is concerned with determining the parameters of a recording pulse, and the location at which the data is recorded need not be the same precise area as in the case of the linking area in *Van Den Enden et al.* Thus, the present invention is not confronted with the same problems as *Van Den Enden et al.* insofar as rewriting the same data over each other (e.g., within the linking area).

Consequently, one having ordinary skill in the art knowing that a random sequence may be utilized to avoid material defects in the recording layer due to repeated overwrites in the same location, as taught in *Van Den Enden et al.*, would not have been motivated to modify the teachings of *Tasaka et al.* to use a random sequence for the same reason. As noted above, the use of the random signal sequence in the present invention does not involve multiple re-writes of the same data at a given location, but rather utilizes such random signal sequence simply to determine

the parameter changes which are subsequently used for the recording of data on the information layer. Thus, there is no motivation that would prompt one having ordinary skill in the art to combine the teachings of the references as proposed by the Examiner.

For at least the above reasons, applicants respectfully request withdrawal of the rejection of claims 1, 13, and the claims dependent therefrom.

III. REJECTION OF CLAIMS 3 AND 15 UNDER 35 USC §103(a)

Claims 3 and 15 stand rejected under 35 USC §103(a) based on *Tasaka et al.* in view of *Van Den Enden et al.*, and further in view of *Nakajima et al.* Applicants respectfully request withdrawal this rejection for at least the following reasons.

Claims 3 and 15 depend from claims 1 and 13, respectively, and may be distinguished over the teachings of *Tasaka et al.* and *Van Den Enden et al.* for at least the same reasons discussed above. Furthermore, *Nakajima et al.* does not make up for the above-discussed deficiencies in *Tasaka et al.* and *Van Den Enden et al.*

Specifically, *Nakajima et al.* teaches that a random test pattern is undesirable as it requires a considerable amount of time. Instead, *Nakajima et al.* teaches that a test pattern may be randomly selected from a *predetermined selection* of test patterns. Such a predetermined selection of test patterns clearly is not "random and arbitrary" as recited in amended claims 1 and 13.

Accordingly, *Nakajima et al.* again teaches directly away from the features of amended claims 1 and 13.

Applicants therefore respectfully request withdrawal of the rejection.

IV. CONCLUSION

Accordingly, all claims 1-7, 9-19 and 21-24 are believed to be allowable and the application is believed to be in condition for allowance. A prompt action to such end is earnestly solicited.

Should the Examiner feel that a telephone interview would be helpful to facilitate favorable prosecution of the above-identified application, the Examiner is invited to contact the undersigned at the telephone number provided below.

Should a petition for an extension of time be necessary for the timely reply to the outstanding Office Action (or if such a petition has been made and an additional extension is necessary), petition is hereby made and the Commissioner is authorized to charge any fees (including additional claim fees) to Deposit Account No. 18-0988.

Respectfully submitted,

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DATE: September 14, 2007

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